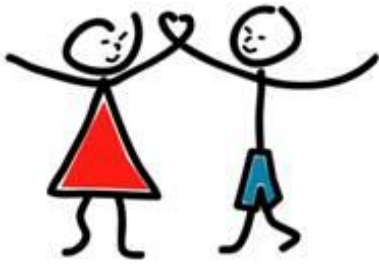


RURAL WATER SUPPLY AND SANITATION PROGRAM FOR QUANG NAM PROVINCE



CHIA-Children's Hope In Action

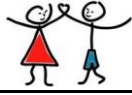


TECHNICAL ASSISTANCE FOR PROGRAM IMPLEMENTATION

Report on the Visit Trip to CHIA and Quang Nam Province Site Visit

AUGUST 2011





**REPORT ON THE TRIP TO QUANG NAM PROVINCE
CHIA VISIT AND SITE VISIT**

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1. CHILDREN'S HOPE IN ACTION (CHIA)

Children's Hope In Action (CHIA) is a non government organisation founded by Ms Robyn Morley. Its office locates at Hoi An City in Quang Nam Province. The organization, supported by many community groups, corporations and individuals focuses on three following key areas:

Health:

- Poor people assessment and diagnosis
- Surgery financing

Education:

- Give scholarships to disadvantaged children
- Finance the construction of fresh water supply systems and toilets for schools

Housing:

- Build houses for the poor

CHIA is also financing a Center for Street Children Protection at Hoi An. The organization pays for all expenses to maintain the center operation including living expenses and education expenses for 30 children of 6 to 18 years old and salary for 6 staffs working as nannies at the center.

2. SMEC'S SUPPORT TO CHIA

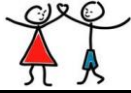
CHIA is in need of technical support from SMEC in following issues:

2.1 Building houses for the poor

Up to now, CHIA has built xxx houses for the poor in Quang Nam and the value of these houses range from \$USD 2000 to \$USD 3000. The challenge in building these houses is that the structures of the houses have to be strong enough to face storms and floods while low construction prices must be kept as well. CHIA has gradually improved the design but there remains one problem which is the roof of corrugated galvanized iron sheets is in danger of being sprung when facing winds and storms. Because of this, there should be a better design for the roof.

Another challenge is the fresh water supply for poor people who are given houses. The majority of poor households live in the remote areas where the water supplied by the local government is out of reach. Therefore, they have to drill or dig their own wells of 20-30m depth. However, the qualities of groundwater in different positions are not the same. Some households are lucky to have groundwater of good quality so that they can directly use the water for domestic purposes. Others having poor quality water sources have to build simple sand filters to improve the water quality. CHIA has also supported some households in construction of wells using hand pumps, simple sand filters and water tanks. However, CHIA hasn't had any treatment solution for contaminated water sources.

CHIA has built many toilets and septic tanks for poor households without any design drawing and bill of quantity. The construction depends only on the experience of workers which leads to the poor construction quality causing water leakage, smell pollution and groundwater pollution. The pollutions, especially the groundwater pollution affect those households badly.



In order to complete the house building for the poor in Quang Nam, CHIA needs SMEC's supports in the following aspects:

- 1) Provide a better design for house roofing**
- 2) Provide typical design for water filtration / treatment**
- 3) Provide a typical model of household toilet and septic tank**
- 4) Provide bill of quantity and cost estimate for the above-mentioned work items**

2.2 Construction of water supply system and school toilets

2.2.1 Water supply for schools

Currently, In the Quang Nam Province has many schools in remote areas that cannot access to the centralized water supply sources. The supply of water for these schools will serve these purposes:

- Provide drinking water for students: At present, some schools have bought bottled water of 20l for students to drink during break time. Due to limited funds, those schools can only afford cheap bottled water of VND 9.000/bottle and therefore, the water quality is not good enough causing potential health risks for the students. Only a small number of them bring water from home to drink during school hours.
- Supply water for toilet use: Currently, all the schools have used groundwater from drilled or dug wells for toilet use.

Supply of water for schools in remote area is one of the things that CHIA wants to focus on in the time to come.

2.2.2 School toilets

A majority of schools within the region don't have toilets or have too old toilets which are unable to be used. Because of this, students in those schools urinate randomly in the empty lands around the schools causing health risks and environmental pollution as well.

CHIA has been financing the construction of toilets for many schools and achieved good results. This activity is welcomed by both the schools and the local authority.

For the construction of water supply systems and school toilets part, CHIA needs SMEC's technical support in:

- 1) Giving a better and widely used solution for directly providing drinking water to students;**
- 2) On the basis of the design for the school toilet which CHIA has implemented, providing a better design for septic tank to make sure it meets the hygiene standards and is able of controlling during construction phase.**



3. SOME PICTURES AND REVIEWS AFTER THE SITE VISIT

3.1 CHIA and its operation



P1. CHIA's head office at Hoi An City – Quang Nam Province

P2. Some of CHIA's typical activities during the past time

3.2 Some examples of houses for the poor financed by CHIA



P3. House of Mr CTL, XXX Commune, XXX District before financed by CHIA

P4. House of Mr CTL, XXX Commune, XXX District after supported by CHIA



P5. House of **Thuy TTT**, **XXX** Commune, **XXX** District, before financed by CHIA



P6. House of Thuy TTT, XXX Commune, XXX District after supported by CHIA



P7. Construction well hand pump and water tank for domestic purposes



P8. Toilet design of the house supported by CHIA



3.3 Water supply systems and school toilets supported by CHIA



P9. The toilet of Duy Tan primary school before financed by CHIA



P10. The joy of the students in Duy Tan primary school after being supported with new constructed toilet



P11. Installation of pipes from a drilled well to Duy Tan primary school financed by CHIA



3.4 Proposed finance program of CHIA in the time to come

During his three days of site visiting, SMEC's engineer has been introduced to some typical projects implemented by CHIA and also some households and schools under consideration to be financed. Below are images and some initial data taken from those households and schools.

3.4.1 Street children protection center of Hoi An City



Scale: Nurturing 30 children under 18 years old whom live with 6 nannies.

CHIA is now financing all the operating costs of the center including living expenses and education expenses for those children, and salary payment for the nannies.

P12. Street children protection center of Hoi An City



Water source: treated water is used for all activities of the center

Water quality: unstable, causing abdominal pain sometimes.

P13. Domestic water tanks of the street children protection center of Hoi An City



P14. Toilet of the street children protection center of Hoi An City

Concerning issue: Flood season occurring each year with flood level upto 2 meters causes difficulties and inconveniences for the students.

Current needs of the street children protection center of Hoi An City:

- Testing the quality of treated water currently used (SMEC has taken a sample of the water and named it Sample 1). In case of failing to meet the hygiene standard, there should be a remedy for good quality water for drinking and cooking.
- Finding a solution for using school toilets in the event of flooding.



3.4.2 Duy Tan primary school in Duy Xuyen District



P15. Water source of the Duy Tan primary school – Division 2

*Scale: 1 headquarter and 2 divisions comprising 320 students and 30 teachers
Water source: using water from a dug well of a neighbour household for toilet use.*

Quality: good (the neighbour household is using that source of water for domestic purposes).

Drinking water for students: The school collect money from students to buy bottled water for them to drink but the quality is not really good.



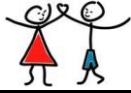
P16. Toilet of the Duy Tan primary school – Division 2

Old toilet: unused

New constructed toilet: in use, financed by CHIA

Rooftop water tank: concrete tank, financed by CHIA





The needs of Duy Tan primary school at present are:

- Testing the dug well water quality which the school is now using (SMEC has taken a sample of the water and named it sample 3).
- Treating this water source so that the water can be used as direct drinking water for students.

3.4.3 Que Minh primary school in Que Son District



P17. Que Minh primary school – Headquarter and Division 2

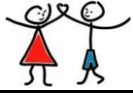
Scale: 1 headquarter and 2 divisions comprising of 300 students and 29 teachers.



P18. Dug wells of the Que Minh primary school

Water source: wells dug at school

Water quality: poor quality, only for toilet use



P19. Current water treatment method

The school is currently used a treatment equipment to supply water for the students but its capacity is too low and its operation is not very efficient. Therefore, the water quality fails to meet the standards for direct drinking water.



P20. Toilets of the school's headquarter and division

At present, those toilets are seriously degraded, limited used.



The students urinate everywhere in the empty lands around the school creating an unsanitary environment causing health risk and environmental pollution.



The needs of Que Minh primary school:

- Testing the dug well water quality which the school is now using (SMEC has taken a sample of the water and named it sample 4).
- Treating this water source so that the water can be used as direct drinking water for students.
- Finding finance source for new construction of the toilets at headquarters and divisions

3.4.4 Que Phong primary school in Que Son District



P21. Que Phong primary school – Headquarter

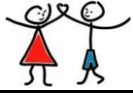
Scale: 1 headquarter and 3 divisions comprising of 500 students.

The school was supported by the Korean government with 5 classrooms and 1 toilet in 2001.

Water source: coming from a drilled well, financed by an individual, located 100m apart.

Quality: only for toilet use

Drinking water for students: Bring from home or ask for water from households nearby.



P22. Que Phong primary school - Division

Water source: drilled well at school

Quality: only for toilet use

Drinking water for students: Bring from home or ask for water from households nearby.

Current needs of Que Phong primary school:

- Testing the dug well water quality which the school is now using (SMEC has taken a sample of the water and named it sample 5).
- Treating this water source so that the water can be used as direct drinking water for students.
- Finding finance source for new construction of the toilets at divisions



3.4.5 House of Mr. Ngo Minh, Phu Nhuan 3 hamlet, Duy Tan commune, Duy Xuyen District



P23. House of Mr. Ngo Minh

Number of people: 5 people

Current situation of his house: damaged and unsecured in the event of storms. The whole family has to move out when there comes a storm.

Water source: ask for dug well water of a neighbor. The water is of good quality.

Toilet: no toilet.

Current needs: *Housing, water supply and toilet construction.*



3.4.6 House of Mrs. Dam Thin, Duy Tan commune, Duy Xuyen District



P24. House of Mrs. Dam Thin

Number of people: 5 people.

Current situation of her house: too damaged, has to reinforce and repair before and after any storm.

Water source: coming from neighbourhood house, having good quality.

Toilet: no toilet

Current needs: *Housing, water supply and toilet construction.*



3.4.7 House of Mrs. Do Thi Lai, Dong Binh hamlet, Duy Vinh commune, Duy Xuyen Dist



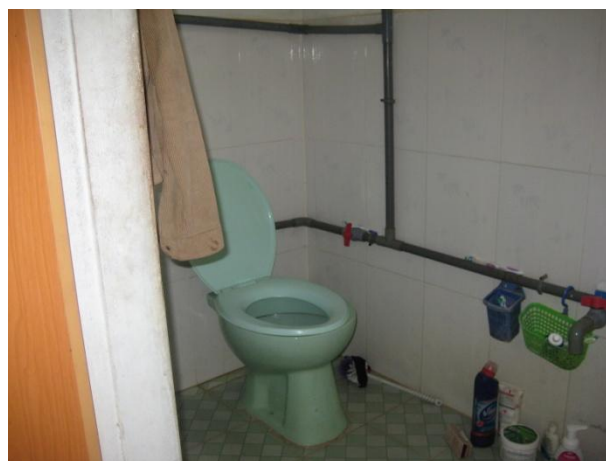
P25. House of Mrs. Do Thi Lai

*Number of people: 1 mother and 2 children
Current situation of her house: constructed in 2006 under the support of a charity fund in HCMC.*

CHIA's support: replace the roof, install the door, install the hand pump well and sand filter tank. The quality of filtering water is poor (SMEC has taken a sample of the water and named it sample 2).

Current needs: Toilet construction, water quality improvement.

3.4.8 House of Mrs. Nguyen Thi Huong, Vinh Nam hamlet, Duy Vinh commune, Duy Xuyen District



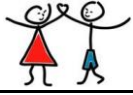
P24. House of Mrs. Nguyen Thi Huong

Number of people: 4 people including 1 mother and 3 children

Current situation of her house: having a new constructed house in August 2010, financed by CHIA

Water source: coming form neighbourhouse, poor quality, only for toilet use and bathing. Water for drinking and cooking has to be bought from the market.

Current needs: Construction of Water supply facility.



4. SMEC'S TECHNICAL SUPPORT PLAN FOR CHIA IN THE TIME TO COME

After the visit to CHIA and the local site visit, we have figured out the technical supports which CHIA is expected from SMEC. They are:

4.1 Housing for the poor with water supply and sanitation facility:

1. Provide a better design for house roofing
2. Provide typical design for water filtration / treatment
3. Provide a typical model of household toilet and septic tank which meets hygiene standards and is able of controlling the quality during construction phase

4.2 Constructing water supply systems and toilets for schools:

1. Provide a better method for supplying direct drinking water for students
2. Base on the toilet design which CHIA is now implementing, provide a better design for septic tank to meet hygiene standards and is able of controlling the quality during construction phase
3. Provide bill of quantity and cost estimate for the above-mentioned work items

SMEC will research, propose appropriate solutions and prepare design documents for every single case mentioned above. The solution for each case should be extended to become a typical model which can be applied to similar cases in the future.

Capacity improvement for CHIA's staffs will also be a key objective of SMEC. We hope that through our technical support, CHIA's staffs can well implement all its programs in the future.

SMEC shall prepare all the documents and send to CHIA asap.